

MEAT INSPECTION

PUBLIC HEALTH AND WELFARE TECHNICAL BULLETIN

PH&W GHQ SCAP APO 500

October 1947

NOTE: Sections I through V of this Bulletin were published in December 1946. Sections VI and VII follow.

SECTION VI MEAT PROCESSING PLANTS

1. Official Numbers:

a. To each establishment granted inspection, an official number shall be assigned. Such number shall be used to identify all inspected and passed products prepared in the establishment. More than one number shall not be assigned to an establishment.

b. Two or more official establishments under the same ownership or control may be granted the same official number, provided a serial letter is added in each case to identify each establishment and the products thereof.

c. When inspection has been granted to a person at an establishment, it shall not be granted to any other person at the same establishment, except that a subsidiary of the grantee, doing any of the business, may apply for and receive inspection.

2. Separation of Official from Unofficial Establishment:

a. Each official establishment shall be separate and distinct from any other official establishment, from any unofficial establishment in which any product is handled, and from any other unofficial establishment at the discretion of the chief of the division.

b. Inspection shall not be inaugurated in any building any part of which is used as living quarters, unless the part for which inspection is requested is separated from such quarters by floors, walls, and ceilings of solid concrete, brick, or similar material, and the floor, walls, and ceilings are without openings that directly or indirectly communicates with any part of the building used as living quarters.

3. Sanitation and Adequate Facilities:

a. Inspection shall not be begun if an establishment is not in a sanitary condition nor unless the establishment agrees to maintain such condition and provides adequate facilities for conducting such inspection.

4. Inauguration of Inspection:

a. When an application for inspection is granted, the inspector in charge shall, at or prior to the inauguration of inspection, inform the proprietor or operator of the establishment of the requirements of these regulations. If the establishment at the time inspection is inaugurated, contains any product which has not theretofore been inspected, passed, and marked in compliance with the regulations, the identity of the same shall be maintained, and disposed of as an uninspected product. The establishment shall adopt and enforce all necessary measures, and shall comply with all such directions as the inspector in charge may prescribe, for carrying out the purposes of this section.

5. Withdrawal of Inspection for Violations of Regulations:

a. The chief of the division is hereby authorized to withdraw inspection from any official establishment which fails to comply with any provision of the Meat Inspection Act or of the regulations made pursuant thereto.

6. Reports of Violations of Regulations.

a. Inspectors and other division employees shall report to the inspector in charge all violations and failures under Para 5 of which they have knowledge, and the inspector in charge shall report the same to the chief of the division.

7. Designation of Inspector in Charge and Assistants:

a. The chief of division shall designate an inspector in charge of the inspection at each official station, and assign to said inspector such assistants as may be necessary.

8. Division Employees to have Access to Establishment at all Times

a. For the purpose of any examination or inspection necessary to enforce any of the provisions of the regulations contained in this section, division employees shall have access at all times, by day or night, whether the establishment is operated or not, to every part of any official establishment to which they are assigned. The official books of the establishment are not included in this privilege. Also, the purchase of meat products or gifts from the establishment will not be tolerated.

9. Badge as Identification of Inspectors:

a. Each division employee will be furnished with a numbered official badge, which he shall not allow to leave his possession, and which he shall wear in such manner and at such times as the chief of the division may prescribe. This badge shall be sufficient identification to entitle him to admittance at all regular entrances and to all parts of the establishment and premises to which he is assigned, and to any place, at any time, for the purpose of making an inspection pursuant to provisions of this section.

10. Assignment of Inspectors where Member of Families Employed.

a. Except as specifically authorized by the chief of the division, no division employee shall be detailed for duty at an establishment where any member of his family is employed by the establishment, nor shall any inspector in charge or other employee acting in a supervisory capacity be continued on duty at an official station where any member of his family is employed by any establishment under his jurisdiction. Division employees are forbidden to solicit, for any person, employment at any official establishment, or by any officer, manager, or employee thereof.

11. Establishment; Sanitary Conditions; Requirements.

a. Official establishments, establishments at which market inspection is conducted, and premises on or in which any product is prepared or handled by or for persons to whom certificates of exemption have been issued, shall be maintained in sanitary condition, and to this end the requirements of this section shall be complied with.

b. There shall be abundant light, both natural and artificial, of good quality and well distributed, and sufficient ventilation for all rooms and compartments to insure sanitary condition.

c. There shall be efficient drainage and plumbing system for the establishment and premises, and all drains and gutters shall be properly installed with approved traps and vents.

d. The water supply shall be ample, clean, and potable, with adequate facilities for its distribution in the plant and its protection against contamination and pollution. Every establishment shall make known, and whenever required shall offer opportunity for inspection of the source of its water supply, the storage facilities, and the distribution system.

e. The floors, walls, ceilings, partitions, posts, doors, and other parts of all structures shall be of such materials, construction, and finish as will make them susceptible of being readily and thoroughly cleaned. The floors shall be kept water tight. The rooms and compartments used for edible products shall be separate and distinct from those used for inedible products.

f. The rooms and compartments in which any product is prepared or handled shall be free from dust and from odors from dressing rooms and toilet rooms, catchbasins, hidecellars, casing rooms, inedible tank and fertilizer rooms, and livestock pens.

g. Every practicable precaution shall be taken to exclude flies, rats, mice, and other vermin from establishments. The use of poisons for any purpose in rooms or compartments where any unpacked product is stored or handled is forbidden, except under such restrictions and precautions as the chief of division may prescribe. The use of bait poisons in inedible compartments, outbuildings, or similar places, or in storerooms containing canned or tierced products is not forbidden.

but only those approved by the chief of the division may be used. So called rat viruses shall not be used in any part of an establishment or the premises thereof.

h. Dogs and cats shall be excluded from establishments.

12. Brands and Marking Devices to be Approved by Chief of Division

a. Official establishments shall furnish such ink brands, burning brands, and like devices for marking products as the chief of division may require. The mark of inspection on such a device shall be of such a size and conformation best suited for the purpose intended. The number of the official establishment shall appear on the brand as a means of identifying the establishment making the product.

13. Articles not to be Removed from Establishment Unless Branded:

a. No person shall remove or cause to be removed from an official establishment any article which the regulations in this section require to be marked in any way unless the same is clearly and legibly marked in compliance with the regulations in this section.

14. Marks of Inspection to be Carefully Applied:

a. All marks of inspection shall be carefully applied and securely affixed, so that they remain legible after drying. The division inspectors can require new branding marks be applied where illegible marks are seen.

15. Branding Ink to be Furnished by Establishment; Color:

a. Official establishments must furnish all ink for marking products. Such ink must be made with harmless ingredients that are approved for the purpose by the division. Samples of ink shall be submitted to the meat inspection laboratory from time to time as may be deemed necessary by the inspector in charge.

(1) Only purple ink approved for the purpose shall be used to apply ink brands bearing the marks of inspection to carcasses and fresh meats derived therefrom.

(2) Ink brands bearing the marks of inspection used for purposes other than in subparagraph (1) of this paragraph may be applied with branding ink of any color and composition that will assure ready legibility and permanence of marking except as provided in paragraph (3) of (15). The color of the ink shall provide acceptable contrast with the color of the product to which it is applied.

(3) Products shall not be marked with green ink except that, if desired by the establishment, such ink may be used for holiday markings and designs.

16. Brands and Marking Devices Not to be False or Misleading.

a. No brand or device shall be false or misleading. The

letters and figures thereon shall be of such style and type as will make a clear and legible impression.

17. Handling of Products Too Small to be Branded.

a. Any product of such character or so small that it cannot be marked with a brand, and which has been inspected and passed but does not bear the inspection legend, may be removed from an official establishment in closed containers bearing the inspection marks and the type of product contained therein.

18. Marking of Meatfood Products in Casings:

a. Inspected and passed sausage and other products in casings, of the ordinary "ring" variety or larger, shall be marked with the inspection legend and brand of the establishment. Inspected and passed sausage and other products in casings, of the smaller varieties shall bear one or more inspection marks to each chain, or two or more of such marks to each bunch, except in cases where the smaller varieties leave the establishment in containers already carrying the inspection legend and brand and number of establishment.

b. Meat food products in casings, other than sausage, which possess the characteristics of or resemble sausage, shall bear on each link or piece the word "imitation", prominently displayed. Provided, that such products which are prepared without added substances other than curing materials and condiments, and that meat rolls, bockworst, and similar products in casings which do not contain cereal, souse, sulze, scrapple, blood pudding, and liver pudding in casings, need not be marked on the casing with the word "imitation" or the true name of the product, and that other products in casings, such as loaves and chili con carne, may bear on each link or piece the true name of the product in lieu of the word "imitation".

c. When cereal, vegetable starch, starchy vegetable flour, dried milk, or dried skim milk is added to sausage within the limits prescribed under this chapter, the product shall be marked with the name of each ingredient such as, "cereal added", "potato flour added", "dried skim milk added", "cereal and dried skim milk added", and so forth as the case may be. On sausage of the smaller variety, the markings may be limited to links bearing the inspection legend.

d. A cloth bag, artificial casing, or similar container of sausage or product of a size larger than that customarily sold at retail intact shall be printed with the mark of inspection and such markings as "casing colored", "artificially colored", "cereal added", "dried skim milk added", and "imitation", near each end of the article so as to be clearly visible to the consumer; provided, that such articles which are printed with a label need not, in addition, show markings other than the mark of inspection near each end.

e. The marking indicated in paragraph (d) of this section shall be branded near each end of sausage or similar product prepared

in animal casings when the article is of a size larger than that customarily sold at retail intact.

f. When a preservative permitted under this subchapter is added to sausage or other meat food products in casings, the products shall be marked to show the presence and percentage of the added preservative.

g. All markings may be omitted from sausage and other meat-food products in casings when these articles are to be processed in sealed containers.

h. A product fabricated from two or more ingredients shall bear a list of the ingredients, giving the common or usual names of the ingredients arranged in the order of their predominance, except that spices or flavorings (including essential oils, oleoresins, and other spice extractives) may be designated as "flavorings" without naming each. The list of ingredients shall be applied legibly and securely to the product by means approved by the chief of the division, such as stamping, printing, or the use of paper bands, tags, or tied-in paper fabric flaps.

19. Labeling Required:

a. When, in an official establishment, any inspected and passed product is placed or packed in any can, pot, tin, canvas, or other receptacle or covering constituting an immediate or true container, there shall be affixed to such container or covering a label as hereinafter described in this part:

b. The name under which inspection is granted to an official establishment may appear without qualification on the label or the container of a product prepared by the official establishment.

c. The name of the product shall be the common name, if any and one which clearly and completely identifies the article. Products which have been prepared by salting, smoking, drying, cooking, chopping, and the like shall be so described on the label unless the name on the article implies, or the manner of packaging shows, that the product was subjected to such procedure.

d. The list of ingredients shall appear as part of or in addition to the true name of the product and shall show the common or usual name of the ingredients arranged in the order of their predominance, except that spices and flavorings may be simply designated as "flavoring".

e. The statement of quantity shall represent in terms of avoirdupois weight or liquid measure the quantity of product in the package when packed. When the statement expresses actual quantity, variations incident to packing in accordance with good commercial practice shall be allowed but the average shall not be less than the quantity stated.

f. Labels shall not be affixed to containers so as to ob-

secure the embossed establishment number.

20. Use in Preparation of Meatfood Products of Chemicals, Preservatives, Coloring Matter; Addition of cereal, Vegetable Starch, Dried Skim Milk, Water, Etc., Substances Necessary for Refining:

a. No product shall contain any substance which impairs its wholesomeness or which is not approved by the chief of division.

b. There may be added to products, with appropriate declaration, common salt, sugar (dextrose), woodsmoke, vinegar, flavorings, spices, sodium nitrate, sodium nitrite, potassium nitrate (saltpeter) and potassium nitrate.

c. Benzoate of soda and benzoic acid may be added to product, with appropriate declaration.

d. With appropriate declaration, the following preservatives may be added, in the amounts indicated, to rendered animal fat or a combination of such fat and vegetable fat:

1. Resin guaiac not to exceed 1/10 of one percent.
2. Nordihydroguaiaretic acid not to exceed 1/100 of one percent.
3. Lecithin, as an emulsifier in oleomargarine and puff pastry shortening.

e. To facilitate chopping and or to dissolve the usual curing ingredients, water or ice may be used in the preparation of luncheon meat and meat loaf; however, the total amount of water used shall not exceed 3 % of the ingredients going into the preparation of the product and its presence shall be declared as required in this chapter.

f. Except as otherwise provided, sausage shall be prepared with meat, or meat and meat by-products, seasoned with condimental proportions of condimental substances.

g. Under appropriate declaration, sausage may contain not more than 3½ %, individually or collectively, of cereal, vegetable starch, starchy vegetable flour, dried milk or dried skim milk.

h. For the purpose of facilitating chopping and mixing, water or ice may be used in the preparation of sausage which is not cooked, in an amount not to exceed 3 percent of total ingredients used. Sausage of the kind which is cooked, such as frankfurters, vienna, and bologna, may contain not more than 10 percent of added water or moisture.

i. Bicarbonate of soda, caustic soda, diatomaceous earth, Fuller's earth, carbon, agents used exclusively as catalyzers, such as nickel preparations, and such other substances as may be approved by the chief of division may be used in the preparation of rendered fats; provided, that they are eliminated during the process of manufacturing.

j. Caustic soda, sodium carbonate (soda ash or sal soda), trisodium phosphate, or sodium metasilicate, or a combination of lime and sodium carbonate, and or a solution of hydrogen peroxide, may be used in the preparation of tripe: PROVIDED, that immediately following the treatment the tripe is thoroughly washed with clear water and the added substances removed.

k. The use of sodium nitrite, potassium nitrite, sodium nitrate or potassium nitrate, or a combination of nitrite and nitrate, shall not result in the presence of more than 200 parts per million of nitrite in the finished product. Supplies of sodium nitrite and potassium nitrite and mixtures containing them must be kept securely under the care of responsible employees of the establishment. The specific content of such supplies must be known and clearly marked accordingly. The maximum amounts of sodium nitrite and or potassium nitrite which may be used are as follows:

1. 2 pounds in 100 gallons of pickle.
2. 1 ounce for each 100 pounds of meat in dry salt, dry cure, or box cure.
3. 1/4 ounce in 100 pounds of chopped meat and or meat by-products.

l. Harmless synthetic flavoring may be added to products for which they are approved by the chief of division, and declared as "artificial flavoring".

m. Pork for use in fresh pork sausage shall not contain more than 50 percent of trimmable fat, that is, fat which can be removed by thorough, practicable trimming and sorting.

n. Coloring matter and dyes which are approved by the chief of division when declared, may be mixed with rendered fats, applied to animal and artificial casings, and applied to such casings enclosing product, provided that there is no penetration of the coloring matter or dye into the product. The presence of a visible ring of dyed products appearing around the periphery of the cut surface is evidence of penetration. The following coloring matters and dyes are acceptable:

(1) The natural coloring matters alkanet, annatto, carotene, cochineal, green chlorophyll, saffron and tumeric. These dyes and coloring matters are subject to certification by the manufacturing company. Also, samples will be submitted for laboratory analysis when deemed necessary.

21. Prescribed Treatment of Pork and Products Containing Pork to Destroy Trichinae.

a. All forms of fresh pork, including fresh unsmoked sausage containing pork muscle tissue, and pork such as hams, shoulders, shoulder picnics, bacon, and jowls, which are subjected only to curing or to smoking at temperatures that do not impart to the meat the appearance of being cooked, are classed as products that are customarily

well cooked in the home or elsewhere before being served to the consumer; therefore, the treatment of such products for destruction of trichinae is not required.

b. Products containing pork muscle tissue or the pork muscle tissue which forms an ingredient of such products, including, or of the character of, those hereinafter named, are classed as articles which shall be effectively heated, refrigerated, or cured to destroy any possible live trichinae: Bologna; frankfurters; viennas; smoked sausage; knoblauch sausage; mortadella; all forms of summer or dried sausage, including mettwurst; cooked loaves; roasted, baked, boiled or cooked hams; pork shoulder, or pork shoulder picnic; Italian style ham; Westphalia style ham; cured meat rolls; coppa; fresh or cured boneless pork shoulders butts hams, loins, shoulders, picnics, and similar pork cuts, in casings or other containers in which ready-to-eat delicatessen articles are customarily enclosed; cured boneless pork loin; boneless back bacon; pork cuts such as hams, shoulders, picnics and butts which are subjected to smoking at sufficiently high temperatures to impart a partially cooked appearance to the meat. Ordinarily, such cuts fall in this class when heated to an internal temperature above 120 degrees F. (49C)

c. The treatment shall consist of heating, refrigerating, or curing, as follows:

(1) Heating: All part of the pork muscle tissue shall be heated to a temperature not lower than 137 degrees F.(59C) and the method used shall be one known to insure such a result. On account of differences in methods of heating and in weights of products undergo treatment, it is impossible and impracticable to specify details of procedures for all cases. Procedures which insure the proper heating of all parts of the product shall be adopted. It is important that each piece of sausage, each ham, and other product treated by heating in water be kept entirely submerged throughout the heating period; and that the largest pieces in a lot, the innermost links of bunched sausage or other massed articles, and pieces placed in the coolest part of a heating cabinet or compartment or vat be included in the temperature tests.

(2) Refrigeration: At any stage of preparation and after preparatory chilling to a temperature of not above 40 degrees F. or preparatory freezing, all parts of the muscle tissue of pork or product containing such tissue shall be subjected continuously to a temperature not higher than one of those specified in the following figure the duration of such refrigeration at the specified temperature being dependent on the thickness of the meat or inside dimensions of the container:

<u>Temperature</u>	<u>Group 1</u>	<u>Group 2</u>
/ 5 deg F (-15C)	20 days	30 days
- 10 " " (-23C)	10 days	20 days
- 20 " " (-29C)	6 "	12 "

Group 1: comprises products in separate pieces not exceeding 6 inches in thickness, or arranged on separate racks with the layers not exceeding 6 inches in depth, or stored in crates or open boxes not exceeding 6 inches in depth, or stored as solidly frozen blocks not exceeding 6 inches in thickness.

Group 2: comprises products in pieces, layers or within open containers, the thickness of which exceeds 6 inches but not 27 inches and products in closed containers including tierces, barrels, kegs, and cartons having a thickness not exceeding 27 inches.

The product undergoing such refrigeration or the containers thereof shall be so spaced while in the freezer as will insure a free circulation of air between the pieces of meat, layers, blocks, boxes, barrels, and tierces in order that the temperature of the meat throughout will be promptly reduced to not higher than 5 deg. F, (-15C), -10 deg F, (-23C) or -20 deg F, (-29C), as the case may be.

During the period of refrigeration, the product or lot thereof shall be kept separate from other products and in the custody of a division employee. The room or compartment containing product undergoing freezing shall be equipped with accurate thermometers placed at or above the highest level at which the product undergoing treatment is stored and away from refrigerating coils. After the prescribed freezing has been finished, the product shall be kept under close supervision of an inspector until it is prepared in final form or until it is transferred to another establishment for preparation in finished form.

SECTION VII

SEA-FOOD INSPECTION

1. The following regulations are issued for the purpose of providing a system of sanitary inspection of all sea-food and sea-food products in order to maintain safety, sanitation and wholesomeness in the preparation and supply to the people of Japan.

2. Definitions: Sea-Food

a. For the purpose contained herein the word "SEA-FOOD" shall include fish, whales, squid, clams, oysters, crawfish, lobsters, crabs, shrimp, and any or all other marine animals taken either from fresh or salt water for human food; also shall include all fresh, salted, frozen, cured, dried, canned or processed products containing any part thereof.

b. Sea-Food Markets shall mean to include any and all wholesale and retail establishments, where sea-food is sold or offered for sale.

c. Sea-Food Establishments, Sea-Food Producing, Processing and Canning Establishments shall mean to include any and all buildings, sheds, yards, or places where sea-food is handled, stored, iced, salted, cured, dried, canned or processed.

d. Inspectors shall be furnished by the Meat Inspection Division of the Prefectural Bureau of Public Health and Welfare. All inspectors selected for this service will be qualified men who have had either actual experience or have undergone schooling in the conditions that arise from unsanitary handling or preparation of sea-food. A knowledge of the various species of sea-food native to Japan is essential.

e. Sanitary Permits shall mean official authorization, issued free of charge by the Prefecture Bureau of Public Health and Welfare to those establishments falling within their jurisdiction.

f. Transportation or Carriers, shall mean to include all members of the fishing fleets and railroad refrigerator cars used in the transportation of sea-food of all types to the establishments listed under b and c of this paragraph.

3. Examinations and Condemnations.

For the purpose of examination by the inspector, sea-food and sea-food products may be taken as often as necessary to determine their wholesomeness. The inspector will condemn and forbid the sale of, or cause to be destroyed any sea-food or sea-food products which are unwholesome. A record of each condemnation in pounds and specie of sea-food concerned along with reasons for condemnation shall be kept on

file in the Prefectural Bureau of Public Health and Welfare, and a copy will be furnished the establishment where condemnation resulted.

4. Inspection of Sea-Food Establishments

At least once a week, an inspection shall be made on the official form of every sea-food establishment, markets, sea-food producing, processing and canning establishments, cold storage houses, and a spot check of fishing boats and refrigerator cars for compliance with sanitary requirement as listed in this regulation.

In case a violation is discovered in any item of sanitation, a second inspection shall be made after the lapse of such time as the inspector deems sufficient for the violation to be remedied. One copy of the inspection report shall be posted upon the inside wall of the establishment inspected and shall not be defaced or removed unofficially. Another copy shall be filed in the records of the Division Office in the Prefecture where inspection occurred. The inspector shall at all times be granted access to all parts of the establishments mentioned and shall carry a card of authorization certifying his representation of the Meat Inspection Division.

5. Sanitary Requirements for Establishments and Carriers.

A. Sea-Food Markets:

(1) Where screening facilities are not available, all measures will be taken to control or hold the presence of flies to a minimum.

(2) Inspection and work tables will be cleaned daily, flushed off after each lot of sea-food has been examined and will have baskets or containers adjacent to the tables for the collection of unsound sea-food, viscera, fins, heads and scales when present. All containers to be used for sound wholesome sea-food will be so marked and thoroughly washed after each use and will not be in such a position as to allow recontamination from the contents of the containers holding the condemned parts. Buckets of water shall be in position at each table to provide a method of cleansing knives, etc., and the water shall be changed frequently. Containers used for condemned parts will under no condition be used for holding wholesome sea-food and will be so marked to that effect.

(3) The fish handlers shall at all times be provided with clean aprons for use when preparing fish and they shall not be allowed to work in their street clothes without such protective measures.

(4) Ample quantities of fresh potable water shall be available and shall be used frequently during the working period in flushing the floor free from accumulated sea-food debris.

(5) When floors are used for dumping the incoming sea-food prior to issue, they shall be flushed and as reasonably free of water as possible.

(6) Duckboards shall be installed around the eviscerating tables to prevent wholesome sea-food from falling onto the floor once operations have started.

(7) All containers returned for re-use, shall be thoroughly washed prior to being used and shall be in good condition in order to avoid breakage from further handling.

b. Sea-Food Establishments:

(1) All small retail shops or markets shall endeavor to control flies by installing screens or by using fly-proof covers over the sea-food on display.

(2) Reserve stock of sea-food on hand shall be held under refrigeration and carefully stored to reduce early spoilage.

(3) Employees of the shops will be the only persons authorized to handle any of the products on display for sale. Under no condition will prospective customers be allowed to handle the sea-food.

(4) Where sea-food is prepared by evisceration for sale, every care shall be taken to see that the viscera, heads and fins are collected in a container and disposed of early in order to reduce decomposition odors and to prevent a source of contamination to other sea-food in the shop.

(5) Authorized handlers of sea-food employed in the shops will be provided with clean aprons and under no condition will they be allowed to use paper aprons over their street clothes.

(6) Ample supply of potable water will be made available to keep the premises clean and the floor will be flushed several times a day in order to remove sea-food debris which normally falls upon the floor thereby creating a fly menace.

(7) Packaging of sea-food upon sale will be in sanitary containers and complete so as to enclose all of the contents.

c. Sea-Food Producing, Processing & Canning Establishments

(1) Fish Paste, Fish Cakes, Fish Balls, Fish Scones.

a. Where the above products are manufactured, every effort will be taken to control flies, either by screening or through the use of fly-protective covers.

b. All sea-food to be utilized will immediately upon receipt, be thoroughly washed in clean potable water, examined for soundness and placed in clean containers from which they are scooped into the macerating machines.

(c) The containers used for catching the mascerated sea-food shall be placed on duckboards, rather than on the floor proper, due to abnormal amounts of water upon the floor.

(d) The tables used for molding the paste shall be washed and scrubbed daily and when any evidence of splinters become apparent, new boards will be installed so as to avoid wood splinters being incorporated into the product.

(e) The rotary mixing bowls will be kept completely clean at all times and after each batch of mix has been removed, should be flushed before a new batch is added.

(f) The hot water and steam tourines shall be cleaned daily, kept free from rust, and will not have anything stored overhead which might fall in and produce contamination.

(g) The sampling of cereal flour and starch by laboratory analysis for purity reasons shall be done at the discretion of the inspector.

(h) All containers used for collecting the final products, shall be clean at all times and shall be dry at the time the products are placed therein.

(i) All employees handling the sea-food material will be provided with clean aprons daily. Caps or cloth snoods shall be worn to prevent hair from falling into the products.

(j) The floors, walls and overhead beams or ceiling will be cleaned daily as accumulated sea-food scraps will cling easily to the surfaces and furnish material for flies to breed in.

(k) All persons not engaged in the processing of sea-food will be excluded from the establishment.

(l) Every attempt will be made to keep animals from the establishment.

(m) Clean toilet facilities will be made available for all employees and possess signs requiring the employees to always wash their hands prior to resuming work.

(2) Sea-Food Canning Establishments:

a. All receiving docks at establishments will be kept in a clean and sanitary condition.

b. All sea-food upon receipt will be carefully washed, examined and go forward for further processing in a clean and wholesome condition. Containers used in holding the sea-food will be washed thoroughly each day and any that are to be used for surplus storage will be in a good and serviceable condition so as not to allow the contents to spill out on the floor. Sea-food to be held under refrigeration

tion will be carefully stored so as to allow the refrigerant to reach all parts of the stored items.

c. The preparation tables where sea-food is processed shall be washed daily and when possible, should be washed after each lot of fish has been handled. Containers for collecting the parts of the sea-food which are not edible are to be placed in such a position with the table as not to furnish a source for contamination. If other containers are employed to convey the sea-food to other departments, they must be clean at all times and if placed upon the floor, duckboards will be utilized to avoid possible recontamination.

d. All equipment which will come in contact during the processing preparation will be kept clean at all times.

e. The pre-cookers are to be inspected for cleanliness and when a change of product is to take place, must be flushed out with potable water prior to re-use.

f. The canning machines will be maintained in a clean condition at all times and food hoppers shall be washed daily. When packing into the final container is done by hand, care must be taken to charge each container only with a sound and wholesome product.

g. All cans or glass jars will be thoroughly steamed or washed prior to use and examined for defects, which if found, will be removed from the canning line immediately.

h. Temperature charts on the steam or cooking reports will be inspected for compliance with the best sterilizing methods. Information regarding this should be obtained from the management.

i. All employees will wear clean aprons each day and the use of finger stalls and bandages which are dirty is prohibited.

j. Adequate fly control measures will be placed in effect.

k. Floors will be kept free from sea-food particles and will be flushed several times each day.

l. Walls and ceilings will be kept free from soilage at all times. When the ceiling consists of overhead beams, at no times will they be utilized for storage purposes.

m. Good lighting and ventilation must be affected to reduce the possibility of unsound sea-food being passed for further processing.

n. Where large numbers of employees are used, toilet facilities must be adequate. Signs shall be placed on the walls instructing the employees to wash their hands before returning to work.

o. When sea-food items are being processed for export, samples shall be taken for examination as to compliance with existing specifications.

p. Samples of seasoning agents and oils for use in sea-food products will be taken to determine their purity and in cases where they are faulty, they must be removed from the plant immediately.

d. Cold Storage Plants:

(1) Sea-food arriving at cold storage plants will be in clean containers of either wood, cloth or straw and shall be in a serviceable condition so that the contents will not spill out onto the floor. All containers to be used for such service must not have been used previously for any material which might convey poisonous material to the contents.

(2) The storage of sea-food will be handled in a systematic manner as to allow the refrigerant in use to rapidly freeze the stock. Accumulation of materials classified other than as food, will not be tolerated within the freezer proper. Aisle ways will be kept clean. Scraps of sea-food which have fallen on the floor and become damaged beyond reclamation, will be treated as an unsound product.

(3) Thermometer readings will take place at each inspection. Where defrosting of products has taken place due to a mechanical failure of the freezing unit, a thorough inspection will be made to ascertain the degree of spoilage with immediate segregation and disposition of the products deemed unfit for human consumption.

e. Fishing Boats:

(1) A periodic inspection of fishing boats will be made to observe sanitary measures being practiced.

(2) Periodic inspections will also be made at the time the boats are ready to discharge their cargo to determine the effectiveness of the refrigeration method used while out on the seas.

(3) A periodic trip should be made with the fleet to observe their method of handling, evisceration, sanitation and where sanitary defects are noticed, instructive criticism will be made at the time defects were in practice.

f. Refrigerator Cars:

(1) All refrigerator cars prior to being loaded, will be inspected for icing conditions, temperature of the car on the inside, and effectiveness of the sanitation in cleaning the car before being loaded. The false flooring will be raised to inspect for accumulated debris beneath it.

(2) If for some reason, traffic of refrigerator cars is delayed, inspection of the cars' contents should be made to determine if sufficient refrigerant is available to carry the contents in a fro-

zen state to their destination.

(3) All manufactured ice and snow blocked into cakes, shall at all times be free from dirt, and if crushed ice is used, it likewise must be free from soilage.

(4) Storage of cargo inside of the cars will be handled in such a manner as to allow an air space around the walls and vents throughout the cargo so that the refrigerant can penetrate into all areas without creating any dead spots in which early decomposition results.

(5) All cargo loaded into cars will be handled in a manner so as to avoid unnecessary breakage of the boxes or bursting of the straw bags allowing sea-food to spill out into the car and become contaminated or crushed to the extent that it loses its food value.

(6) The handling of sea-food too large for boxing or crating can be effectively controlled and guarded against new contaminants by seeing that the false flooring of the cars is in a clean and sanitary condition prior to loading.

6. Inspection for Condition in Fish:

a. Fresh Fish:

(1) Fresh fish have a bright appearance, the scales and skin are firmly adherent and glittering; slime, if present, is natural to the species; the eyes are outstanding and full; the gills have a bright color and no odor, and gill covers and mouth are closed; the abdominal walls are firm and elastic, with no evidence of bloating and no discoloration; the flesh is firm, elastic, and tight on the bones; the blood in the abdomen is bright; there is a fresh characteristic smell; when laid across the hand, the fish does not bend; it sinks in water.

b. Stale Fish:

(1) Stale fish have a dull appearance; the scales and skin are more easily removed; the surface of the body might be slightly slimy or smeary, or may be abnormally dry; the eyes are red bordered and the cornea cloudy; the gills are pale yellow, dirty or greyish red, and covered with slime of a disagreeable odor; the abdominal walls become soft and flaccid; the body feels bony and bends easily, especially at the tail end; finger impressions are easily made and remain; the flesh becomes soft and easily removed from the bone; abdomen may be slightly bloated and discolored; blood in the abdomen is usually dull in color and may have a slight off odor; the fish floats in water.

c. Putrid Fish:

(1) Putrid fish have lost all their brightness and lustre; the color is dull and lifeless; the scales and skin are very

loose and covered with a smeary slime of very offensive odor; the eyes are greatly sunken or broken down and gone; the body is withered and flabby; the abdomen is soft, pulpy and discolored; the anus is frequently protruding; body blood is dirty brown in color and offensive. Decomposition is usually evidenced in the gills (which are surcharged with blood), in the blood (found in quantities in the large vessels under the backbone or in the abdominal walls), in the surface slime and in the digestive tract of round fish.

d. Fish Native to Waters Around Japan:

(1) Names:

<u>Japanese</u>	<u>English</u>	<u>Japanese</u>	<u>English</u>
Iwashi	Pilchard, sardine	Nishin	Herring
Tara	Cod	Saba	Mackerel
Sake	Salmon	Masu	Trout
Buri	Amber fish	Maguro	Tuna
Aji	Yellow mackerel	Karei	Flounder
Katsuo	Bonito	Tai	Porgy
Fuka	Shark	Bora	Mullet
Tobi-uo	Flying fish	Sawara	Spanish mackerel
Wakasagi	Surf smelt	Ayu	Small trout
Unagi	Eel	Koi	Carp
Kajiki	Spear & Swordfish		

(2) Of the above fish, those most commonly utilized for export are the Kajiki, Katsuo, Maguro and Aji.

e. Shell Fish:

(1) Examination for condition in shell fish consists of determining freshness with characteristic shell or musk odor. Opening of the shells discloses the muscle to be firmly adherent to the shell wall, possessing a glossy appearance and covered with a thin mucus-like fluid, opaque in color. A clean musk odor can be detected.

(2) Shell fish that have become stale, have partially opened shells, offensive odor and the muscle is dull in appearance. The fluid generally is viscid and flocculent in appearance.

(3) Shell fish native to waters around Japan are:

Awabi (Ear shell), Asari (Baby Clam), Kaki (Oyster)
Sazae (Spider shell) Akagai (Giant Clam).

The above shell fish are those most commonly found and utilized for canning purposes.

f. Miscellaneous Fish;

(1) In this group are to be found Whale, Shark, Octopus, Cuttlefish, Sea Bream, Lobster, Shrimp and Prawns, all of which are utilized for food purposes both as to consuming as a fresh and as canned items.

7. Frozen Fish; Methods

a. Natural Freezing, or Winter Frozen.

(1) Winter caught fish are characterized by their twisted bodies since they freeze while still struggling.

b. Panned Fish, or Pan Frozen;

(1) Fish are placed in a single layer in pans with a perforated bottom to allow drainage. Round fish are placed belly up, since the belly usually is indicative of quality. Gutted fish are placed belly down for drainage. Pan freezing requires a longer time for freezing.

c. Freezing Methods:

(1) Sharp freezing; Brine freezing; Brine fog; Birdseye; Air freezing and Sharp freezing; Diving Bell; Double-Belt freezer and Floating Pan.

8. Changes Taking Place in Frozen Fish:

a. By whatever method fish are frozen, they are stored more or less in contact with the air of the storage room. Exposure to air is productive of five undesirable conditions, namely:

(1) Dehydration: Due to loss of moisture from the fish.

(2) Discoloration: Due to decomposition of the pigments of the blood upon exposure to air (oxidation), producing a brownish discoloration of the flesh, especially in the vicinity of the large blood vessels underneath the backbone and belly walls.

(3) Rusting: Due to oxidation or hydroxylation of the fat. Fish fat is rather unstable, and decomposes readily by enzymic action. It shows up as accumulated deposits, gummy in character and yellowish, rusty color on the surface of the fish, particularly near the base of the fins, and in the belly cavity of gutted fish. Rusting is accelerated by heat and retarded by low temperatures.

(4) Loss of Flavor: Due to evaporation of volatile substances other than moisture.

(5) Undesirable Odors: Due to exposure or contact with odors or odorous material.

9. Salted, Smoked, and Dried Fish.

While the above methods represent but a small percentage of the total of fishery products, it does present methods in processing which are contrary to the best sanitary procedures. The use of dirty salt, improper smoking material and vegetable oils and dyes must carefully be considered as very often they enable the growth of molds and

bacteria with toxin formation which will be extremely harmful if consumed.

Where any of the above items are inspected, the system of preparation must be known, for many of the methods of achieving the above requires refrigeration to some extent, contrary to most opinions.

When any item is suspicious in color and smell, samples must be taken for analysis immediately.